

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on line 1 of page 3 as follows:

Aging has been shown to produce reductions in the mitochondrial membrane potentials (MMP) in rats, and studies have demonstrated reduced levels of ~~COX~~ cytochrome-c oxidase (COX) and ~~SDH~~ succinate dehydrogenase (SDH) with aging. Many studies have demonstrated age-associated reductions in auditory sensitivity. Specifically, reactive oxygen species (ROS) damage mtDNA leading to reduced mitochondrial function, cognition and age-related hearing loss.

Please amend the paragraph beginning on line 1 of page 8 as follows:

Alpha-lipoic acid is a coenzyme for the pyruvate dehydrogenase complex in the mitochondrial matrix. It is an essential cofactor for metabolism in alpha-ketoacid dehydrogenase reactions. This vitamin-like substance has been supplemented orally for health benefits and has also been used as a therapeutic agent in a variety of hepatic and neurological disorders, as well as mushroom poisoning. Consideration has also been given to the use of alpha-lipoic acid in the treatment of diabetes mellitus and atherosclerosis, in which decreased levels of alpha-lipoic acid have been found. Interestingly, a specific 10.4 kb mitochondrial DNA deletion (mtDNA del) has been found in patients with diabetes mellitus and sensorineural hearing loss. Thus, it may also be hypothesized that patients with these disorders as well as aging might benefit from a diet supplemented with lipoic acid. Dietary supplementation of alpha-lipoic acid successfully prevents myocardial damage induced by ischemia-reperfusion injury. Presently its primary therapeutic use is for the treatment of diabetic polyneuropathy.

Please amend the paragraph beginning on line 10 of page 22 as follows:

For the seven groups of Alzheimer's patients separately from the seven groups of control patients, one-way ANOVA is used to perform the group comparisons of the change from baseline to the last study month in the levels of auditory sensitivity, cognition (total ~~ADAS~~ Alzheimer's Disease Assessment Scale (ADAS) score), and MMP. The seven groups involved in this analysis are a placebo group, a group for each of the five separate drugs, and a group for the five drugs combined. The Dunnett t-test procedure is used to compare the placebo group to each of the six drug groups. As a secondary analysis to evaluate for trends across time in both settings, repeated measures of ANOVA are used to compare the groups regarding the changes overall of the monthly time points. If the underlying ANOVA assumptions of distributional normality or equal sample variances are violated, then data transformations will be explored or a non-parametric testing alternative will be utilized.